STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

2413774

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered " does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: Incline VRH & VDT *Agreement #:*30-078648

2. Name of applicant:

   Washington State Department of Natural Resources

3. Address and phone number of applicant and contact person:

   Washington State Department of Natural Resources
   950 Farman Avenue North
   Enumclaw, WA 98022
   Ted Keeley
   (360) 825-1631

4. Date checklist prepared: 09/24/2009

5. Agency requesting checklist:

   Washington State Department of Natural Resources

6. Proposed timing or schedule (including phasing, if applicable):

   a. *Auction Date:* 05/25/2010
   b. *Planned contract end date (but may be extended):* 10/31/2011
   c. *Phasing:* None

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Timber Sale

   a. *Site preparation:* None

   b. *Regeneration Method:* Units 3, 4, and 5 will be hand planted with conifer within two years following harvest. Units 1 and 2 are thinnings that will remain as fully stocked stands following harvest.

   c. *Vegetation Management:* Needs will be assessed 5 –7 years after harvest.

   d. *Thinning:* Needs will be assessed 10 - 15 years after harvest.

Roads: The roads that are part of this proposal will receive periodic road maintenance such as grading, ditch cleanout and vegetation management during harvest activities. The mainline haul roads outside the harvest area will be used for future forestland management activities such as timber harvesting, as well as recreation and fire control. The abandonment of roads as part of this proposal will be in accordance with Forest Practice Rules after completion of harvest activities. The roads that will remain open after completion of harvest activities will be maintained as part of a road maintenance plan for the Tahoma State Forest. The purchaser of this timber sale proposal will be required to complete road maintenance on those roads used as part of this proposal.

Rock Pits and/or Sale: Rock for the construction of the landings and surfacing for the new road construction may come from the Zig Zag Rock Pit located in the SW ¼, SW ¼, Section 2, Township 14 North, Range 6 East. The rock pit will be expanded by approximately 0.1 acres.

Other: None

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☐ *303 (d) – listed water body in WAU:* ☐ *temp* ☐ *sediment* ☐ *completed TMDL (total maximum daily load):*
☐ *Landscape plan:*
☐ *Watershed analysis:*
☐ *Interdisciplinary team (ID Team) report:*
☒ *Road design plan:* included in the Road Plan, dated 10/12/09
☒ *Wildlife report:* dated summer of 2006 and July 20, 2009
☐ *Geotechnical report:*
☐ *Other specialist report(s):*
☐ *Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☒ *Rock pit plan:* included in the Road Plan, dated 10/12/09
☒ *Other:*

1) Owl habitat surveys for 1996
2) Policy for Sustainable Forests
3) State Soil Survey
4) GIS WAU Analysis: Maps and data pertaining to Mass Erosion and Erosion Potential, Hydrologic Maturity and roads per square mile, rain-on-snow zone. This information has been adjusted where more recent and accurate proprietary data exists.
5) P&T Special Concerns Report
6) Endangered Species Act (ESA) 1973
7) Nisqually River Management Plan
8) DNR's 1997 Habitat Conservation Plan
9) Department of Fish And Wildlife, Priority Habitat Species (PHS)
10) DNR Forestry Handbook
11) DNR RMAP

Referenced documents may be obtained from the South Puget Sound Region office in Enumclaw for review during the SEPA comment period.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None known

10. List any government approvals or permits that will be needed for your proposal, if known.

☐ *HPA* ☐ *Burning permit* ☐ *Shoreline permit* ☒ *Incidental take permit* ☒ *FPA* ☒ *Other:* Board of Natural Resources approval

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. *Complete proposal description:*

The Incline VRH & VDT proposal lies within the boundaries of the Reese Creek WAU. The project area selected for consideration was approximately 301 acres in size and was reduced to a net acreage of 116 acres due to the removal of all areas that are cost-prohibitive to operate and as a result of protection measures put in place for streams, inner gorges, bedrock hollows, and potentially unstable soils. This proposal consists of 5 units. Units 1 and 2 are variable density thinnings (VDT) that will be harvested to a residual relative density (RD) of 25, leaving a fully stocked and hydrologically mature stand. Units 3, 4, and 5 are variable retention harvests (VRH) that will leave 8 trees per acre over 12 inches in diameter at breast height following harvest. The proposal will also include 2,502 feet of optional new road construction, 500 feet of optional road reconstruction, 22,713 feet of required pre-haul maintenance and 1,454 feet of road abandonment, if constructed. Road abandonment will consist of constructing water bars, keying water bars into ditchline, grass seeding exposed soils within 100 feet of streams, and scattering slash on the road prism. Refer to A.7. above for rock pit information. Refer to A.11.c below for a road activity summary.

Unit #1

Estimated Volume: 453 mbf
Net acres in proposal: 20
Type of harvest: Variable Density Thinning
Logging system: Ground based, Downhill Cable
Landings: Approximately 0.5 acre

Unit #2

Estimated Volume: 1,111 mbf
Net acres in proposal: 40
Type of harvest: Variable Density Thinning
Logging system: Ground based, Downhill Cable
Landings: Approximately 1 acre

Unit #3

Estimated Volume: 1,010 mbf
Net acres in proposal: 27
Type of harvest: Variable Retention Harvest
Logging system: Ground based, Downhill Cable
Landings: Approximately 0.5 acre

2413774

Unit #4

Estimated Volume: 425 mbf
Net acres in proposal: 10
Type of harvest: Variable Retention Harvest
Logging system: Downhill Cable
Landings: Approximately 0.5 acre

Unit #5

Estimated Volume: 625 mbf
Net acres in proposal: 17
Type of harvest: Variable Retention Harvest
Logging system: Ground based, Downhill Cable
Landings: Approximately 0.5 acre

R/W

Estimated Volume: 121 mbf
Acres in proposal: 2
Logging system: Ground based

b. *Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.*

The proposed harvest units are located on gently rolling terrain to steep hillsides with rock cliffs. Much of the proposed harvest area is on terrain steeper than 60 percent; however, areas near benches and valley bottoms have a slope of less than 30 percent. Elevation of the proposal area ranges from 1,730 feet to 2,688 feet.

The majority of the stand is in the stem exclusion stage of development. The stand is comprised of 60 to 70 year old second growth mixed conifer and hardwood, which is hydrologically mature. Trees fully occupy the site and form a single, main canopy layer. There is little or no understory development. Where understory vegetation exists, there is very little shrub and herb diversity. In the majority of the stand, the shrub and herb layers are completely absent or are dominated by one or two shade-tolerant species, such as sword fern, Oregon grape, oxalis, or salal. The area is designated Northern Spotted Owl Dispersal Habitat. The proposal area lies to the south of the Nisqually River to the southeast of Elbe and to the southwest of Ashford.

Short-term objectives:
1) Create revenue for trust beneficiaries through timber harvest.
2) Provide legacy trees for the future stands. Eight legacy trees per acre have been left scattered within Units 3, 4, and 5. These trees are well distributed throughout the harvest units will create structural diversity over time and will provide habitat for various species of animals and plants.
3) Mixed conifer stands will be planted within two years of harvest in the variable retention harvest units (Units 3, 4, and 5). The growth of these trees will be enhanced and managed by altering the density of the plantation through pre-commercial thinnings in order to produce future high quality dispersal habitat.
4) Minimize the visual impacts along the Highway 706 visual corridor.

Long-term objectives:
1) Timber Stand Improvement: a series of intermediate thinnings and harvests will be scheduled as needed during the development of the new stands. The primary objective of each treatment will be to stimulate wood production, generate trust revenue, create new canopy layers, and enhance important structural components to produce stand conditions associated with older stands.
2) Habitat Management: create, maintain and improve the components within the developing stand with each succeeding treatment, as part of the overall objective to create quality spotted owl dispersal and wildlife habitat.
3) Resource Protection: the protection of soil productivity and water quality will remain priorities. Each harvest prescription will be crafted to prevent soil erosion and limit compaction. Large coarse woody debris will be left to contribute to site productivity. Management activities within the established RMZs will be designed to maintain protection for water quality.
4) Create a sustainable source of revenue for trust beneficiaries.
5) Maintain hydrologic maturity across DNR managed lands.

c. *Road activity summary. See also forest practice application (FPA) for maps and more details.*

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		2,502	1	0
Reconstruction		500		0
Abandonment		1,454	.5	0
Bridge Install/Replace	0			0
Culvert Install/Replace (fish)	0			0
Culvert Install/Replace (no fish)	9*			

*All culverts are cross drains. No install/replace culverts for streams.

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map available at DNR region office, and/or color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description:

T14N R6E S2
T14N R6E S3
T14N R6E S4

2413774

b. *Distance and direction from nearest town (include road names):*

From Ashford drive east on State Route 706 for approximately 2.3 miles. Turn right and head south on the Kernahan Road for approximately 1.3 miles. Turn right onto Osborn Road and take an immediate left onto the USFS 85 Road and continue for approximately 1.4 miles. Turn right onto Catt Creek Road for approximately 2.1 miles. For Unit 1 turn left down the 1 Road and for Units 2-5 keep straight onto the 1 Road.

c. *Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")*

WAU Name	WAU Acres	Proposal Acres
REESE CREEK	19,011	116

13. *Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)*

Name of WAU or sub-basin	Acres	DNR managed acres	Private managed acres	Percent DNR managed land	Percent private managed land	Proposal Acres
Reese Creek	19,011	11,961	7,050	63%	37%	116

The table below reports recent timber harvest activity within the last seven years on Department lands, as well as future planned timber harvests on Department lands. The same chart also reports recent past harvesting on private lands, but no attempt was made to predict future timber harvests on private land. Data for Department harvests was compiled from the Department's state lands viewer.

NAME OF WAU	DNR ACRES EVEN-AGED HARVESTED IN LAST 7 YEARS + SOLD TIMBER SALES NOT HARVESTED YET (WILL BE EVEN AGED HARVESTING)	DNR ACRES UNEVEN-AGED HARVESTED IN LAST 7 YEARS	DNR PLANNED HARVEST ACRES WITHIN NEXT FIVE YEARS	PRIVATE ACRES EVEN-AGED HARVESTED IN LAST 7 YEARS	PRIVATE ACRES UNEVEN-AGED HARVESTED IN LAST 7 YEARS
Reese Creek	1,328	1,888	37 EVEN-AGED 1,315 UNEVEN-AGED	161	0

The Reese Creek WAU is 19,011 acres in size, 37 percent is in private ownership, and the remaining 63 percent is managed by the Department of Natural Resources. In the past seven years on private lands (mostly industrial) within the WAU, less than 1 percent of the land base has had some form of forest practices harvest or road activity. Most private industrial lands have been harvested at least once. In the past seven years on DNR managed lands within the WAU approximately 27 percent of this land base has had some form of forest practices harvest or road activity. The DNR managed lands within the WAU have had permits on approximately 3.8 percent of the land base per year over the last seven years. In the next five year period the majority of the acres harvested in the WAU on DNR managed lands will come from thinnings designed to improve dispersal habitat.

The DNR road maintenance and abandonment plan (RMAP) for the WAU is on track to have all forest road related fish passage barriers removed or repaired by January 1, 2016. Much of this work will be accomplished over time in conjunction with timber sales currently in the planning process. In addition to the fish blockages, undersized culverts found as part of the planning processes will be replaced.

The implementation of the procedures of the Habitat Conservation Plan (HCP) and compliance with existing forest practice regulations will minimize or prevent any potential impact that this proposal may have on the environment.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☒Rolling, ☐Hilly, ☒Steep Slopes, ☐Mountainous, ☐Other:

1) *General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).*

The Reese Creek WAU is flat or rolling in the portion of the WAU adjacent to the Nisqually River. It abruptly changes to hilly and steep slopes in the higher elevations of the Reese Creek WAU. The upper portions of the WAU near the headwaters of Reese Creek contain slopes that exceed 75 percent although most slopes in this portion of the WAU range between 30 percent and 50 percent. The elevation ranges in the Reese Creek WAU from 1,600 feet near the Nisqually River to 3,600 feet on the upper ridges of the WAU.

The annual rainfall within the WAU is between 50 and 70 inches, mostly falling between October and June. The temperatures range from a low of 10 degrees Fahrenheit in the winter to highs of 90 degrees Fahrenheit or more during the summer. In areas above 2,500 feet, snow normally covers the ground from December through March. The primary timber types are Douglas fir and western hemlock, although noble fir and silver fir are found in the higher elevations of the WAU. The majority of the private lands in the WAU are in plantations less than 25 years old.

2) *Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).*

The proposal area is a representative example of the Reese Creek WAU.

b. What is the steepest slope on the site (approximate percent slope)?

The steepest slopes within the proposal area are approximately 92 percent. These slopes occur at the base of cliffs in the higher elevations of the proposal.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

State Soil Survey #	Soil Texture or Soil Complex Name	% Slope	Acres	Mass Wasting Potential	Erosion Potential
0488	BELLICUM-ROCK OUTCROP-COMPLEX	65-90	32	No Data	No Data
0485	V.CINDERY LOAMY SAND	30-65	29	LOW	MEDIUM
0484	V.CINDERY LOAMY SAND	8-30	25	INSIGNIFIC'T	LOW
5241	CINDERY SANDY LOAM	0-8	13	INSIGNIFIC'T	LOW
0486	V.CINDERY LOAMY SAND	65-90	10	HIGH	MEDIUM
3608	GRAVELLY SILT LOAM	8-30	6	INSIGNIFIC'T	MEDIUM
0642	V.CINDERY SANDY LOAM	8-30	1	INSIGNIFIC'T	LOW

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) *Surface indications:*

No indications of slope instability were observed within the harvest units. Evidence of past natural slope failures, both deep seated and shallow, were found during the analysis using aerial photos. These failures are considered historic or relics. Potentially unstable landforms, such as bedrock hollows and inner gorges with potential for delivery to a public resource, were excluded from the harvest area. This protection is guided by the DNR's HCP and Forest Practice Rules.

2) *Is there evidence of natural slope failures in the sub-basin(s)?*
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

There are deep-seated and shallow-seated landslides within the sub-basin. Evidence of past natural slope failures were found during the analysis of aerial photos and field inspections. Some of the natural slope failures have occurred from channel migration during rain-on-snow events. None of these failures are associated with any timber harvest activities.

3) *Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?*
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*
Associated management activity:

Small surface failures on cut and fill slopes within the right of ways have been observed on orphaned logging roads and railroad grades. These types of failures are generally associated with peak rain on snow events and typically occur on sub-standard road grades built prior to current forest practice regulations or the DNR's HCP.

4) *Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?*
☒*No* ☐*Yes, describe similarities between the conditions and activities on these sites:*

There are no similarities between the proposal area and those areas within the sub-basin where failures have occurred in the past.

5) *Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.*

Proposal boundaries were located to exclude potentially unstable areas with potential to deliver sediment or wood debris to a public resource. Protective measures include grading the haul roads to maintain the crown and cleaning road ditches to maintain drainage. One end of all logs will be suspended during yarding operations. Harvest operations may be suspended during wet weather, if in the opinion of the Contract Administrator; the operation poses a threat to public resources. To control impacts on the soils that could result in excessive soil displacement and exposure, ground-based equipment will not be allowed on slopes that 40 percent and greater.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: 1acre *Approx. acreage new landings:* 3 acres *Fill source:* Does not apply

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Some minor surface erosion may occur, however, prudent construction techniques and normal maintenance practices will minimize, if not eliminate the amount of erosion.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

The impervious surfacing consists of rock applied to the surface of the roads and landings. This amounts to approximately 0.8 percent of the sale area.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

The harvest proposal is in compliance with the procedures of the HCP and Forest Practice Rules. To reduce potential for negative resource impacts during the typical wet season, road construction, rock haul and timber haul will not be permitted from November 1 to May 31, nor on weekends or state recognized holidays unless authority to do so is granted, in writing, by the Contract Administrator. If permission is granted to operate between November 1 and May 31, the Purchaser may be required to provide a "Closed Season Plan" to include further protection of water, soil, roads and other forest assets. The "Closed Season Plan" must be approved in writing by the Contract Administrator. At any time during periods of wet weather, the yarding of timber, road construction and hauling of logs will not be permitted if excessive rutting occurs.

One end of each log will be suspended while yarding. The Contract Administrator will approve the location of skid trails prior to yarding. Ground based yarding operations will not be permitted on slopes greater than 40 percent. The location and design of the new road construction was chosen to minimize the disturbance of the natural vegetation and the amount of soil displaced. Drainage structures will be placed to reduce the velocity and volume of ditch water. The measures to reduce or control erosion in the road abandonment plans are intended to minimize the impact of fine sediments generated from the operation. The road abandonment measures will consist of the following conditions: constructing non-drivable water bars, connecting water bars into ditches, and grass seed exposed soils near streams.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling*, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

No emissions are anticipated, other than minor amounts of equipment exhaust and road dust created by truck traffic.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

None

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map available at DNR region office, or forest practice application base maps.)*

a) Downstream water bodies:

Reese Creek flows west and adjacent to Unit 5 of this proposal. There are 6 Type 4 streams that flow adjacent to the units, 3 of which only flow during storm events. There is 1 Type 5 stream between Units 4 and 5, and a segmented Type 5 stream within Unit 1. There is a forested wetland between Units 1 and 2. All streams are tributaries to Reese Creek which flows into the Nisqually River.

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Reese Creek	3	1	155 foot RMZ
Stream	4	6	100 foot RMZ
Stream	5	3	30 foot Equipment Limitation Zone
Wetland	Forested	1	200 foot WMZ

c) List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

The streams adjacent to the proposal were identified during field reconnaissance. The stream typing was determined using physical stream characteristics (see 1997 HCP) as well as resource information gathered from forest practices, The Nisqually Indian Tribe, and Washington Department of Fish and Wildlife. Refer to the timber sale map for locations.

RMZ and WMZ buffers, as required by the Habitat Conservation Plan, protect the streams adjacent to the harvest area. One-hundred foot buffers were applied to the Type 4 streams. Douglas fir 100 year site indexes were used to calculate buffer widths for the Type 3 streams and wetland. All buffers were measured from the outer edge of the 100 year flood plain. These buffers were designed to protect the water quality of the streams while maintaining shelter and forage for species dependent on microclimates associated with these riparian areas. The presence and maintenance of these buffers will help prevent fine sediments, generated as a result of harvest operations, from entering the surface waters. The stocking densities within these buffers are sufficient to maintain necessary shade levels and provide the dead and down trees needed for quality wildlife habitat.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐*No* ☒*Yes (See RMZ/WMZ table above and timber sale map available at DNR region office.)*
Description (include culverts):

Harvest will occur up to the buffers listed in the table above. No harvest will occur within the above listed RMZs or WMZs buffers. Type 5 streams may be crossed at locations approved by the Contract Administrator.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*
☒*No* ☐*Yes, description:*

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒*No* ☐*Yes, describe location:*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒*No* ☐*Yes, type and volume:*

7) *Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?*

The Reese Creek WAU contains soils with high mass wasting and erosion potential. These soils are generally located on steep slopes, at higher elevations. There is minimal potential for eroded material to impact streams within the sub-basin since all unstable slopes have been excluded from the proposal area.

8) *Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?*
☐*No* ☒*Yes, describe changes and possible causes:*

The Nisqually River in the Reese Creek WAU can be described as being in a constant state of change. This can be attributed, in part to the large areas that it drains. Major changes in the amount of LOD, channel width and location are primarily due to large scale rain-on-snow events and the annual spring runoff. Tributary streams also show changes due to major rain-on-snow events.

9) *Could this proposal affect water quality based on the answers to the questions 1-8 above?*
☒*No* ☐*Yes, explain:*

The current proposal will not significantly impact stream or water quality. This conclusion is based upon examination of past logging and harvesting activities within the WAU. Some minor erosion may occur although this proposal does not increase the potential for mass wasting or an event that would significantly impact stream or water quality. Erosion control measures will be implemented as described in B.1.h above to prevent sediment delivery to surface waters.

10) *What are the approximate road miles per square mile in the WAU and sub-basin(s)?*
Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☒*No* ☐*Yes, describe:*

The Reese Creek WAU contains an average of 2.3 miles of road per square mile. On non-DNR lands the average is 2.2 miles of road per square mile and on the DNR lands the average is 2.5 miles. All road ditches are disconnected from and do not deliver surface water to streams.

11) *Is the proposal within a significant rain-on-snow (ROS) zone? If not,* ***STOP HERE*** *and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☐*No* ☒*Yes, approximate percent of WAU in significant ROS zone.*
Approximate percent of sub-basin(s):

Approximately 54 percent of the WAU is in a significant ROS or snow dominated zone. Approximately 78 percent of the sub-basin is in a significant ROS or snow dominated zone.

12) *If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?*

1. SUB-BASIN NAME	2. TOTAL ROS ACRES (DNR)	3. HYDRO MATURE TARGET ACRES (2/3 of Column 2)	4. CURRENT DNR ACRES IN HYDRO MATURE FOREST	5. ACRES OF HYDRO MATURE FOREST TO BE REMOVED	6. SUPRLUS (+) OR DEFICIT (-) ACRES AFTER ACTIVITY
Reese Creek Sub-basin #6	1,874	1,250	1,358	55	+53

13) *Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?*
☐*No* ☒*Yes, describe observations:*

Upon site inspection, significant changes to several un-named stream channels within Reese Creek WAU were found. These include debris dam breaks, debris flows, torrents and channel dimension changes. Generally the damage is caused by debris torrents and slope failures that have occurred during periods of peak flow caused by major rain-on-snow events delivering directly into streams.

14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

This proposal is in the same general area as other recent harvesting activities. There is no indication that past, current, or foreseeable future proposals, working in combination with this proposal, will contribute to a water runoff problem within Reese Creek WAU.

15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*
☒*No* ☐*Yes, possible impacts:*

16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

This proposal will remove approximately 1 percent of the hydrologically mature timber within the WAU. The increase in hydrologically immature acres should not increase impacts related to peak flows during rain-on-snow events. The current guidelines for the HCP implementation include prescriptions that address the potential for peak flow impacts. HCP procedure PR-14-040-006, guides assessing the hydrologic maturity levels and aids in ensuring that the sub-basins within the rain-on-snow zone will not be allowed to reach a point where they are at risk to contribute to a peak flow problem. This proposal includes the maintaining of cross drains and ditch outs on the haul routes. These structures will ensure that ditch water is deposited on the forest floor and not allowed to flow directly into typed waters. The leave trees will help minimize soil displacement and surface erosion.

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Insignificant amounts of motor oil, grease and hydraulic fluids may leak from equipment or be washed off equipment by rainwater. No lubricants will be disposed of on site.

3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*
☒*No* ☐*Yes, describe:*

a) *Note protection measures, if any.*

Does not apply

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The location of the culverts (cross drains) will be selected to disperse the collected storm water from the ditches onto the forest floor. The frequent spacing of culverts will minimize the distance water flows before being dispersed onto the forest floor. Consequently, no surface or ditch water will flow directly into existing stream channels. Ditch outs will also be used to channel runoff onto the forest floor. No water runoff will be channeled onto exposed soils.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Minor amounts of lubricants and other petroleum based products could potentially wash off machinery during periods of rain and eventually reach nearby ground water.

a) *Note protection measures, if any.*

No lubricants and petroleum based products used by the machinery will be disposed of on site. Oil absorbent products will be used during the maintenance of machinery to prevent spillage of these products from reaching ground water. Maintenance of machinery and the storage of lubricants and petroleum based products will be conducted at a safe distance from all typed streams.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:
(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

The following measures will be used to minimize potential surface erosion problems:

- Proper landing locations;
- Road construction and maintenance techniques utilizing forest practice's best management practices; sound, adequate ballast and surfacing;
- Seasonal restrictions on construction, hauling and yarding. Compliance with the "Closed Season Plan" to include further protection of water, soil, roads and other forest assets. The "Closed Season Plan" must be approved in writing by the Contract Administrator.

The following measures will be used to reduce and control the impacts of surface, ground and runoff water:

- Spacing and placement of the culverts with head walls;
- Frequent, catch basins and energy dissipaters;
- Use of ditch outs.

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree: ☒alder, ☒maple, ☐aspen, ☒*cottonwood,* ☒*western larch,* ☐*birch,* ☐other:
☒evergreen tree: ☒*Douglas fir,* ☐*grand fir,* ☐*Pacific silver fir,* ☐*ponderosa pine,* ☐*lodgepole pine,* ☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☐*Sitka spruce,* ☒*red cedar,* ☐*yellow cedar,* ☐other:
☒shrubs: ☒*huckleberry,* ☒*salmonberry,* ☒*salal,* ☒*other: Sword Fern, Oregon grape*

☐grass
☐pasture
☐crop or grain
☒wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☐skunk cabbage, ☒*devil's club,* ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☐other types of vegetation:
☐*plant communities of concern:*

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center.")

The stands immediately adjacent to the proposed harvest area on all but the north boundary are typical of the second growth stands 60 to 80 years old found within the WAU at the same elevation and aspect. The stands to the north of all units are 20 to 30 year old plantations consisting of mostly Douglas fir. These plantations lack structure and have little to no understory.

2) Retention tree plan:

Units 1 and 2 are variable density thinnings that are designed to leave a Curtis RD of 25 following harvest. These units will remain hydrologically mature and fully stocked following harvest. Leave trees will be selected from both the dominate and co-dominate size classes, with Douglas fir being the preferred species. Structurally unique trees will be retained when possible. Snags that do not pose a safety hazard will be retained.

Units 3, 4, and 5 are variable retention harvests that are designed to leave approximately 8 trees per acre. The leave trees are larger than 12 inches in diameter at breast height (DBH). Leave trees have been selected from the dominant and co-dominant size class. A minimum of 4 trees per acre have been selected as wildlife trees. Douglas fir is the preferred species of leave trees. Leave trees have been scattered throughout the units. Snags that do not pose a safety hazard will be retained.

c. List threatened or endangered *plant* species known to be on or near the site.

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
None Found in Database Search				

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Units 3, 4, and 5 of this proposal will be replanted with conifer seedlings within two years of harvest activities. In addition, 8 wildlife and green recruitment trees per acre will be left following harvest. These leave trees are scattered away from the unit boundaries to give the unit a more textured look and create a more visually appealing harvest area.

5. Animal

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☐hawk, ☐heron, ☐eagle, ☒songbirds, ☐*pigeon,* ☐other:
mammals: ☒deer, ☒bear, ☒elk, ☐beaver, ☒other: Cougar
fish: ☐bass, ☐salmon, ☐trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐*talus slopes,* ☐*caves,* ☒*cliffs,* ☐*oak woodlands,* ☐*balds,* ☐*mineral springs*

A buffer of 2 live trees (or 30 foot minimum) larger than 6 inches dbh around the entire feature has been applied to cliffs. This buffer will provide protection for the rock outcrop from the harvest activity, maintain some shade for the cliffs microclimate and retain potential roost trees in close proximity to the feature. Yarding on either side of the feature is recommended. However, if yarding or hanging over the cliff is unavoidable the region biologist will be contacted to work with the logger on individual setting locations that are closely associated with cliffs. Yarding corridors should be held to the minimum number operationally practical and width of the corridors should be as narrow as safety allows. The primary concern will be to protect the face of the cliff where as damage of the trees adjacent to the yarding corridors is not a concern.

b. List any threatened or endangered species known to be on or near the site *(include federal- and state-listed species).*

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
None Found in Database Search				

The proposed sale area is in designated Northern Spotted Owl dispersal habitat.

This proposal area falls within the HCP's South Puget Planning Unit which is currently in the interim phase of a long-term marbled murrelet habitat conservation strategy. There is one known polygon of murrelet habitat in the southern portion of Unit 1 (see timber sale map). The occupancy status of the polygons is unknown but will be treated as occupied since it has not been surveyed for occupancy according to the Pacific Seabird Group protocol. Timing restrictions will be in effect for a portion of Unit #1 within 1/4 mile of the polygon due to the existence of Marbled Murrelet habitat near the sale boundary. The restrictions will apply to all falling and yarding activities and will be in place from April 1 through August 31, lasting from 1 hour before sunrise to 2 hours after sunrise and from 1 hour before sunset to 1 hour after sunset, per WAC 222-30 Timber Harvesting.

Currently the Reese Creek Spotted Owl Management Unit contains 56.6 percent dispersal habitat. Information from the DNR's GIS system was used to determine the level of dispersal habitat for each WAU. This proposal combined with all other sales to be offered from July 1, 2004 to January 1, 2010 will not reduce the current dispersal levels below threshold within each WAU.

c. Is the site part of a migration route? If so, explain.
☒ *Pacific flyway* ☐ *Other migration route:* *Explain if any boxes checked:*

All of western Washington is within the Pacific flyway.

2413774

d. Proposed measures to preserve or enhance wildlife, if any:

Green trees are from the dominant and co-dominant trees within the proposal area. The wildlife trees are chosen from those trees that are deformed or damaged. The leave trees in Units 3, 4 and 5 were left in individual trees scattered throughout the unit boundaries. The leave trees in Units 1 and 2 have been pre-marked by the State and designed to leave a Curtis RD of 25. Units 1 and 2 are being harvested by purchaser select take trees as per a written prescription. Additionally, those hard snags that are safe to leave standing will be left. The proposed units have buffers protecting the streams adjacent to the proposal area. These buffers, while protecting the water quality of the streams, will provide shelter and foraging areas for riparian dependent species that are indigenous to the area. The development of the leave trees along with the existing snags will, over time, promote structural diversity and assure the development of a biological legacy while providing nesting, foraging, roosting habitat for cavity dwellers known to use the area. The leave trees and the structures they protect are well distributed throughout the proposal. Cliffs are located in the upper elevation extent of the units. As per procedure PR 14-004-190, these cliffs have been protected by removing them from the proposal area.

1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.

Species /Habitat: Cliffs	Protection Measures: Excluded from proposal area, 2 tree width.
Species /Habitat: Riparian	Protection Measures: No Cut buffers, see 3.a.1) b)
Species /Habitat: Marbled Murrelet	Protection Measures: Timing Restrictions, Unit 1, see above
Species /Habitat: Upland	Protection Measures: 8 Leave trees per acre, Units 3-5

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Petroleum products used for equipment.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

There may be minimal hazards, such as minor fuel spills, and fires.

1) Describe special emergency services that might be required.

The Department of Natural Resources, private and rural fire department suppression crews may be needed in case of a wildfire. Emergency medical services may be required for personnel injuries. Hazardous material spills may require Department of Ecology and/or county assistance.

2) Proposed measures to reduce or control environmental health hazards, if any:

Compliance with state fire laws and fire equipment will be required on site during the closed fire season. Operations will cease if relative humidity falls below 30 percent.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None

2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.

There will be short-term, low-level and high level noise created by the use of harvesting equipment within the sale area. This type of noise has been historically present in this geographical area. The typical hours of operation will be Monday through Friday from 4:00 a.m. to 5:00 p.m.

3) Proposed measures to reduce or control noise impacts, if any:

None

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? *(Site includes the complete proposal, e.g. rock pits and access roads.)*

Timber Production and Forest Management.

b. Has the site been used for agriculture? If so, describe.

No

2413774

c. Describe any structures on the site.

None

d. Will any structures be demolished? If so, what?

No

e. What is the current zoning classification of the site?

Forest Resource Zone

f. What is the current comprehensive plan designation of the site?

Timber Production

g. If applicable, what is the current shoreline master program designation of the site?

Does not apply

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No

i. Approximately how many people would reside or work in the completed project?

None

j. Approximately how many people would the completed project displace?

None

k. Proposed measures to avoid or reduce displacement impacts, if any:

None

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

This proposal is located in the Forest Resource Zone of Lewis County. The current proposal is compatible with that designation. The use of harvest planning information, adherence to the DNR Forestry Handbook along with information taken from DNR's GIS system assure that this proposal is compatible with the existing and projected land uses and plans. The DNR Forestry Handbook is on file at the DNR's South Puget Sound Region office in Enumclaw.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

Does not apply

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Does not apply

c. Proposed measures to reduce or control housing impacts, if any:

Does not apply

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?

Does not apply

b. What views in the immediate vicinity would be altered or obstructed?

1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*
☒*No* ☐*Yes, viewing location:*

2) *Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?*
☐*No* ☒*Yes, scenic corridor name:*

Highway 706

3) *How will this proposal affect any views described in 1) or 2) above?*

Distant hillside views may be affected for several years while openings in the stands created during logging operations will be visible. As the understory vegetation grows, these opening will become less noticeable in the more visible units. Views will also be affected by the highly noticeable red color associated with the regeneration and partial cut units. Logging slash and debris will be visible for several years within these units.

As the new plantations grow and bring a more natural color to the hillside, these harvest units will become less visible.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Scattered leave trees will break up the view of the harvest unit. Reduction in size of the harvest unit due to stream, slope stability and cliff buffers will also reduce the total area with an aesthetic impact.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Does not apply

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Does not apply

c. What existing off-site sources of light or glare may affect your proposal?

Does not apply

d. Proposed measures to reduce or control light and glare impacts, if any:

None

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

There are informal recreational activities such as hiking, fishing and hunting in and around the Reese Creek drainage. The Mount Tahoma Trails Association has a number of ski trails and two huts in the area.

b. Would the proposed project displace any existing recreational uses? If so, describe:

No existing recreational uses would be displaced.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Signs may be posted on roads open to the public to warn of active logging operations in progress.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

None known, original surveys at the Government Land Office (GLO) and cultural layers within GIS have been reviewed.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None known

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

None

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The Tahoma State Forest is accessed from Highway 7, Highway 706, Kernahan Road, USFS 85 Road, Catt Creek Road, the 2 Road, and the 1 Road system.

1) Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?

Traffic from this operation will temporarily increase noise, dust and vehicle density that may result in a decrease in safety. Truck traffic from this individual operation should not increase the need for public maintenance.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No, the nearest public transit is 25 miles away in Eatonville.

c. How many parking spaces would the completed project have? How many would the project eliminate?

Does not apply

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

Yes, refer to the roads information in A.11 of this document and the associated timber sale map.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?

There will not be an increase over historical norms.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

There will be 10 to 12 round trips per day while the operation is active. Peak volumes would occur during the yarding and loading activities between 6:00 am and 5:00 pm of the operating period.

g. Proposed measures to reduce or control transportation impacts, if any:

None

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

Accidents would need to use existing emergency services provided by the local communities. Wildfires would need fire response from the local fire districts and the DNR.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Completed by: _____ Date: 12-30-09

Mark Thibo, Assistant Region Manager

AEM 1-6-10